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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,420	03/05/2001	Heinrich Hummel	12758-021001	2556

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EXAMINER	
AHMED, SALMAN	
ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/800,420	HUMMEL, HEINRICH	
	Examiner	Art Unit	
	Salman Ahmed	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *26* is/are allowed.

6)☒ Claim(s) *14,17-19,21,22 and 25* is/are rejected.

7)☒ Claim(s) *15,16,20,23,24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14, 17, 18, 19, 21, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hummel et al. (US PAT5675582), hereinafter referred to as Hummel.

In regards to claims 14 and 25, Hummel teaches, a method for distributing a data traffic load on a communication network with an extensive range of network nodes connected via a link line (column 2 lines 5-8, a communication network with arbitrary topology having n network nodes and m trunks), the method comprising: ascertaining a current data transfer loading value (column 5 lines 25-32, traffic relation traffic flows vbv) for the link line or a network node using a data traffic monitoring system (column 5 line 67, network nodes ZKN); determining (column 3 lines 3-4, the values are identified for a statistical distribution function) and sending distribution information (column 5 lines 56-57, the route-associated traffic distribution value dw are referred to the m network nodes KN) for the network node based on the current data transfer loading value using the data traffic monitoring system.

Generating an allocation model used to divide an address information of data packets into separate address classes assigned to a plurality of alterative routes leading to a destination network node using the network node is anticipated by (column 6 lines 40-44) a selection being made with the assistance of the routing information ri as to via which of the possible one through r optimum routes, that is, ultimately, via which of the trunks VL the traffic relation vb is to be switched.

Ascertaining the address class from the address information and sending the data packets via one of the alterative routes assigned to the address class ascertained when the network node has received the data packet addressed to the destination network node is anticipated by (column 3 lines 51-61) the steps of using a random distribution value that lies between the static upper distribution value and lower distribution value being defined in the originating and in the transit nodes and is compared to the routing information before an information switching from an originating to a destination network node within the framework of a call setup for traffic relations takes place and dependent on the result of this comparison, the information is switched to the trunk identified by the random distribution value.

In regards to claim 17, transferring data packets having different transfer priorities and sending transfer priority specific loading information to the data traffic monitoring system using the network node to allow the data transfer loading value to be ascertained is anticipated by (column 2 lines 44-45) the traffic flow quanta is matched to the level of the traffic relation traffic flow and to the capacity or, respectively, size of the trunks.

In regards to claims 18 and 19, ascertaining a transfer priority specific distribution information using the data traffic monitoring system and sending the distribution information to the network node which distributes data packets having a transfer priority in accordance with the distribution information defined for the transfer priority and determining destination network node distribution information for the network node and sending the destination network node distribution information to the network node is anticipated by (column 6 lines 22-35) a table being formed per destination network node ZKN for every transit network node TNK of the communication network KN and the compiled tables T are communicated to the respectively appertaining transit network nodes TNK of the communication network, are normed therein and converted into absolute routing information ri. To this end and beginning with zero, the traffic distribution values dwr for each traffic relation vb are summed up in the sequence of the routes respectively appearing at the appertaining transit network node and both the intermediate aggregate value as well as the aggregate value are referred.

In regards to claims 21 and 22, the distribution information for the network node comprising quota details that specify, for each route in a group of alterative routes leading from the network node to the destination network node, a proportion of the data packets addressed to the destination network node that is transferred over one of the alternative routes and using a random number generator weighed in accordance with quota details for assigning the data packet addressed to the destination network node to one of the alternative routes for transfer in anticipated by (column 6 lines 39-54) a call setup of a traffic relation vb from one to another network node NK, during which a

selection is made with the assistance of these routing information ri as to via which of the possible one through r optimum routes, that is, ultimately, via which of the trunks VL the traffic relation vb is to be switched. To this end, a random number zz that lies between the static upper value OW, for example, 100 and the static lower value, for example zero, is formed in a transit network node TNK during the call setup, for example with the assistance of a random generator. The allocated route R and, thus, trunk VL is selected dependent on those two routing information ri between which the random number zz that has been formed lies and the traffic relation vb is set up further via the selected route R.

Allowable Subject Matter

3. Claims15, 16, 20 and 23 and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

4. Claim 26 is allowed.

5. The following is an examiner's statement of reasons for allowance: The instant application claims a communication network comprising: a plurality of network nodes connected via link lines including: an allocation facility for creating an allocation model based on sent distribution information and for dividing an address information of data packets into separate address classes each address class being assigned to one of a

number of alterative routes leading to a particular destination network node; and a data packet distribution facility' for ascertaining the address class of the address information of the data packet to be transferred and for transferring the data packet via the route assigned to the address class', and a data-traffic-monitoring system including: an information-capture facility for ascertaining the current data transfer loading value for the link lines or the network node; an analysis facility for determining distribution information for the network node based on the data transfer loading value ascertained; and a transmission facility to send the distribution information to the network nodes

The cited prior art Galaand, teaches a high speed transmission system in a large packet switching network and, more particularly, to an apparatus and method for speeding up the path selection between a source and a destination node by means of an automatic decomposition of the network topology into a backbone and a plurality of subareas and a pre-selection of usable links.

The cited prior art Hummel teaches the method providing for routing traffic relations (vb) in a communication network (KN) having arbitrary topology with n network nodes (NK) and m trunks (VL). The switching of traffic relations (vb) from network node (NK) to network node (NK) via one through maximally r optimum routes (R) can ensue paritized, prioritizing or in arbitrary mixtures. This is effected by routing information (ri) formed network node-associated and traffic relation-associated and by random numbers formed in the framework of the setup of traffic relations (vb) via which the traffic relations (vb)

are statistically distributed over the one through maximally r routes (R) of a traffic relation (vb) via the affected network nodes (NK).

Distributed routing based on an estimated input traffic matrix Adibniya,F.; Computers and Communications, 1998. ISCC '98. Proceeding teaches an adaptive optimal routing strategy that is based on an estimated input traffic (origin destination) matrix. One of the best routing algorithms is optimal routing algorithm. The routing strategy may be used in each of two forms, centralized and distributed. In the centralized routing algorithms, every node sends its link flow (traffic) information to routing control centre (RCC) node, and then the RCC estimates the input traffic matrix. The RCC uses optimal routing to compute routing tables and sends they to all network nodes. In the distributed implementation of this routing strategy, every node distributes its link flow information to all network nodes and estimates the input traffic matrix based on the link flow information obtained from other network nodes.

The cited prior arts alone or in combination fail to jointly suggest or teach the claimed combination of features as taught by the instant application. Hummel, Galaand and Adibniya do not specifically teach a communication network comprising: a plurality of network nodes connected via link lines including: an allocation facility for creating an allocation model based on sent distribution information and for dividing an address information of data packets into separate address classes each address class being assigned to one of a number of alterative routes leading to a particular destination network node; and a data packet distribution facility' for ascertaining the address class

of the address information of the data packet to be transferred and for transferring the data packet via the route assigned to the address class', and a data-traffic-monitoring system including: an information-capture facility for ascertaining the current data transfer loading value for the link lines or the network node; an analysis facility for determining distribution information for the network node based on the data transfer loading value ascertained; and a transmission facility to send the distribution information to the network nodes

7. Prior art pertinent to the application but not used in the office action:

- US 5453980 A USPATCommunication network and computer network server and interface modules used therein Van Engelshoven; Robertus J.
- US 6195336 B1 USPAT Comparative path replacement Stumer; Peggy M.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Salman Ahmed
Examiner
Art Unit 2666

SA

Seema S. Rao
SEEMA S. RAO 9/22/05
SUPERVISORY PATENT EXAMINER
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